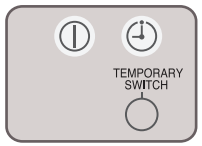
SUMMARY OF TROUBLESHOOTING METHOD FOR INDOOR UNIT

MODEL : RAS-60YHA4

Test Run
1) Power ON the unit and wait for 3 seconds.
2) Press and hold temp. switch for 5 seconds or longer.



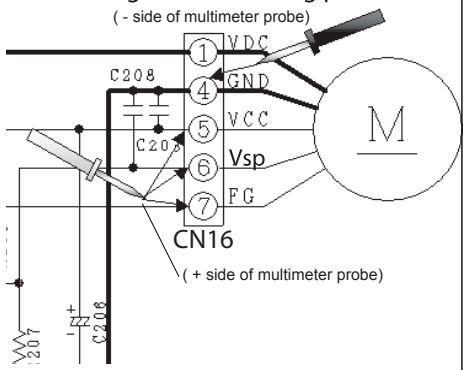
Checking the Room temperature thermistor.
1) Power off the unit.
2) Disconnect the thermistor wire from CN2 of Indicating P.W.B
3) Check the resistance value between the lead of thermistor.
It shall be around 10kΩ ± 1kΩ.

Fan Motor Check

	Resistance	Operation
(+) Red (Pin1) & (-) Black(Pin4)	> 2MΩ/OL	360VDC
(+) White (Pin5) & (-) Black(Pin4)	35kΩ~40kΩ	15VDC
(+) Yellow (Pin6) & (-) Black(Pin4)	230kΩ~250kΩ	3~6VDC
(+) Blue (Pin7) & (-) Black(Pin4)	> 2MΩ/OL	7.5VDC

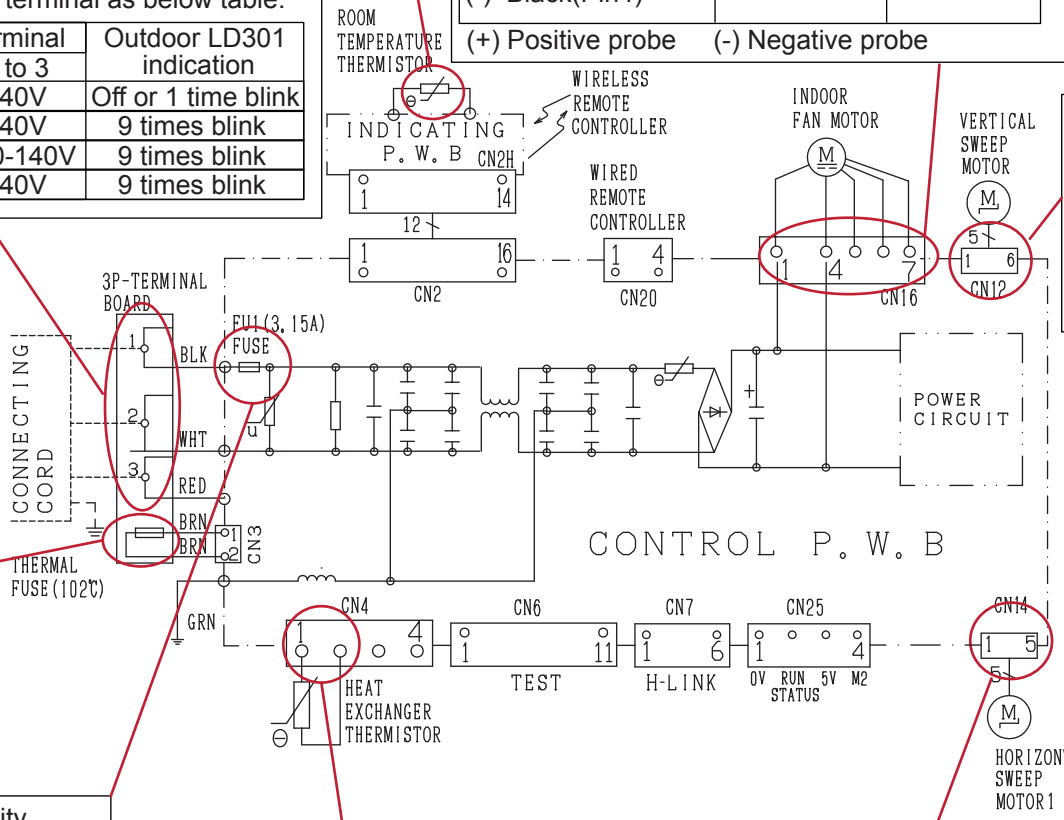
(+) Positive probe (-) Negative probe

[Circuit diagram of checking parts]



Checking the connection of 1, 2, 3 terminal to the indoor.
1) Power ON the unit.
2) After around 1 minute, check the AC voltage between terminal as below table.

Connection condition	Voltage value between terminal			Outdoor LD301 indication
	1 to 2	2 to 3	1 to 3	
All connection OK	240V	around 0.3V	240V	Off or 1 time blink
Terminal 1 no connection	240V	0.1-0.4V	240V	9 times blink
Terminal 2 no connection	240V	100 - 120V	120-140V	9 times blink
Terminal 3 no connection	240V	0.1-0.4V	240V	9 times blink



Checking the vertical stepping motor.
1) Power off the unit.
2) Disconnect the thermistor wire from CN12 of MAIN P.W.B.
3) Check the resistance value between pin 1 and 5.
It shall be around 195 ± 5Ω.

Checking the Terminal fuse continuity.
1) Power off the unit.
2) Disconnect the thermistor wire from CN3 of MAIN P.W.B
3) Check the resistance value between the wire.
It shall be almost 0Ω.

Checking all the fuse continuity.
There are 1 fuses inside the MAIN P.W.B.
1) Power off the unit.
2) Check the continuity of FU1 fuse:
It shall be (3.15A) .

Checking the Heat Exchanger thermistor.
1) Power off the unit.
2) Disconnect the thermistor wire from CN4 of MAIN P.W.B.
3) Check the resistance value between the wire of thermistor.
It shall be around 10kΩ ± 1kΩ.

Checking the horizontal stepping motor.
1) Power off the unit.
2) Disconnect the thermistor wire from CN11 or 14 of MAIN P.W.B.
3) Check the resistance value between pin 1 and 5.
It shall be around 195 ± 5Ω.

SUMMARY OF TROUBLESHOOTING METHOD FOR OUTDOOR UNIT

MODEL : RAC-60YHA4

Checking the IPM IC of IPM P.W.B.
1) Power off the unit.
2) Disconnect compressor wire connector between compressor to IPM P.W.B.
3) Check the diode value between below point :-
   a) Terminal U, V, W (+ side of multimeter probe) to Terminal P (WHT wire) (- side of multimeter probe). It shall be around 0.40 to 0.43.
   b) Terminal N (BLK wire) (+ side of multimeter probe) to Terminal U, V, W (- side of multimeter probe) It shall be around 0.40 to 0.43.

**During normal running, DC voltage between below point are:-
a) Terminal P & Terminal N shall be around 320V
b) Terminal U, V, W (+ side of multimeter probe) to Terminal N (- side of multimeter probe) shall be around 160V.

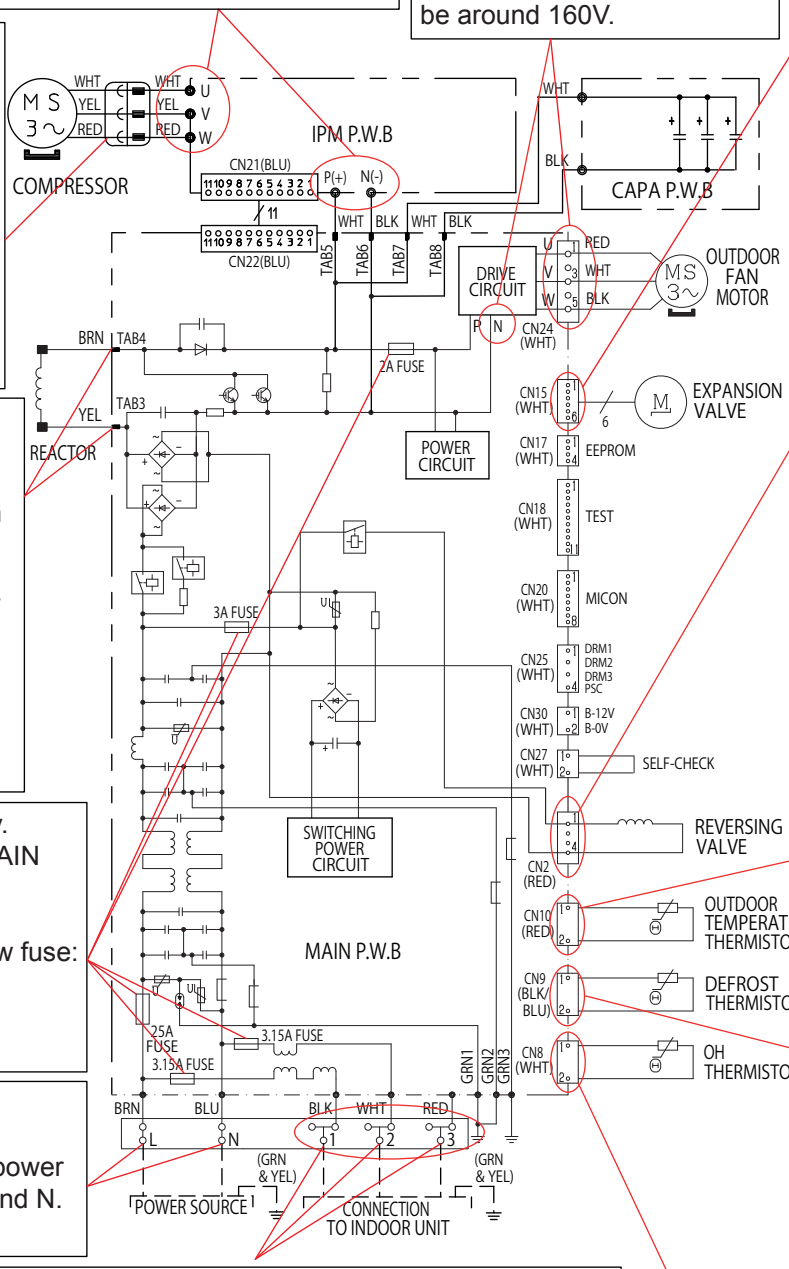
Checking the fan motor winding.
1) Power off the unit.
2) Disconnect fan motor wire from CN24 of MAIN P.W.B.
3) Check the resistance value between RED, WHT, BLK wire of fan motor. It shall be around 20Ω to 50Ω.

**During normal running, DC voltage between RED, WHT, BLK wire of fan motor (+ side of multimeter probe) to Terminal N (R741 leg) (- side of multimeter probe) shall be around 160V.

Test Run
1) Remove Terminal 3 connection.
2) Power ON the unit and wait for 30 seconds.
3) Press and hold test switch for 5 seconds.

Checking the expansion valve winding.
1) Power off the unit.
2) Disconnect the expansion valve from CN15 of MAIN P.W.B.
3) Check the resistance value between wire of expansion valve as below:-
   a) WHT to BRN
   b) ORN to BRN
   c) YEL to RED
   d) BLU to RED
   It shall be around 46Ω ± 3.7Ω.

Checking the compressor motor winding.
1) Power off the unit.
2) Disconnect compressor wire connector between compressor to IPM P.W.B.
3) Check the resistance value between WHT, YEL, RED wire of compressor wire. It shall be same on all terminals between 1Ω to 3Ω.



Checking the reactor winding.
1) Power off the unit.
2) Disconnect YEL and BRN wire at TAB3 and TAB4 from MAIN P.W.B.
3) Check the resistance value between YEL & BRN wire of reactor. It shall be around 0.01Ω to 0.1Ω.

** During normal running, DC voltage between TAB 3 and TAB4 shall be 17V to 20V.

Checking the reversing valve winding.
1) Power off the unit.
2) Disconnect the reversing valve wire from CN2 of MAIN P.W.B.
3) Check the resistance value between the wire of reversing valve. It shall be around 1.9kΩ.

Checking the outdoor temperature thermistor.
1) Power off the unit.
2) Disconnect the thermistor wire from CN10 of MAIN P.W.B.
3) Check the resistance value between the wire of thermistor. It shall be around 1.7kΩ ± 0.3kΩ.

Checking all the fuse continuity.
There are 5 fuses inside the MAIN P.W.B.
1) Power off the unit.
2) Check the continuity of below fuse:
   a) F1 (25A) b) F5 (3.15A)
   c) F6 (3.15A) d) F3 (3A)
   e) F4 (2A)

Checking the defrost thermistor.
1) Power off the unit.
2) Disconnect the thermistor wire from CN9 of MAIN P.W.B.
3) Check the resistance value between the wire of thermistor. It shall be around 1.7kΩ ± 0.3kΩ.

Checking the power source.
1) Power ON the unit.
2) Check the AC voltage from power source between terminal L and N. It shall be around 240 ±10 V

Checking the connection of 1, 2, 3 terminal to the indoor.
1) Power ON the unit.
2) After around 1 minute, check the AC voltage between terminal as below table.

Connection condition	Voltage value between terminal			Outdoor LD301 indication
	1 to 2	2 to 3	1 to 3	
All connection OK	240V	around 0.3V	240V	Off or 1 time blink
Terminal 1 no connection	240V	0.1-0.4V	240V	9 times blink
Terminal 2 no connection	240V	100 - 120V	120-140V	9 times blink
Terminal 3 no connection	240V	0.1-0.4V	240V	9 times blink

Checking the OH thermistor.
1) Power off the unit.
2) Disconnect the thermistor wire from CN8 of MAIN P.W.B.
3) Check the resistance value between the wire of thermistor. It shall be around 25kΩ ± 5kΩ.